

REMARKS

A sheet of formal drawings containing FIGS. 1-2 has been added in accordance with the Examiner's request in the Office Action and the interview with Applicants' representatives on December 5, 2003. Per the Examiner's request, FIG. 1 has been submitted herewith to further illustrate the claimed invention. Additionally, the graph on page 13 has been deleted and re-presented as FIG. 2. As a result of these changes, the Specification has been amended to include a section entitled "**BRIEF DESCRIPTION OF THE DRAWINGS**" and references to FIGS. 1-2.

Claims 1, 3-6, 8-16, 18-21, 23, 25, 26, and new claims 28-32 appear in this application for the Examiner's review and consideration. Claim 1 has been amended to recite that the center comprises a polybutadiene with a polydispersity of about 2 or less; the inner cover layer is harder than both the outer core layer and the center; and that the inner cover material hardness has a lower limit of 60 Shore D. Support can be found in the claims as filed, and in the Specification on page 4, lines 26-27, and page 20, lines 3-6. Claims 2, 7, 17, 22, 24, and 27 have been cancelled without prejudice. New claims 28-33 have been added. No new matter has been added by these amendments and additions.

Applicants would like to thank the Examiner for meeting with their representatives, William B. Lacy and Troy R. Lester, on December 5, 2003. The amendments and remarks herein are substantially those discussed and agreed to during the interview.

Regarding the Examiner's request for a copy of IDS references 'FE' and 'FG', the copies are enclosed herewith. As agreed to in the interview, copies of all foreign/other references are enclosed for the Examiner's convenience.

I. Rejection Over U.S. Patent No. 5,830,086

Claims 1, 3-7, 10-12, and 21-23 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,830,086 to Hayashi *et al.* ("Hayashi"). Hayashi is generally directed to a multi-piece solid golf ball having an inner core, an outer core layer, an inner cover layer, and an outer cover layer, the outer core layer being the hardest of all the layers, and the inner cover layer is softer than the outer cover layer.

For claims to be rejected under 35 U.S.C. § 102(e), each and every element as set forth in the claims of the present invention must be found, either expressively or inherently, in a single

prior art reference. Applicants respectfully submit that Hayashi does not disclose all the elements of the claimed invention. The present invention requires the inner cover layer to have a hardness of between about 60 and about 72 Shore D, as well as being harder than both the outer core layer and center, as now recited in the independent claim 1. By limiting the outer core layer to be the hardest of all the layers (abstract; column 2, lines 28-30 and 52-53; column 3, lines 38-40), Hayashi only teaches an inner cover layer softer than the inner core layer, the exact opposite of the present invention. Further, Hayashi only discloses an inner cover layer of less than 58 Shore D, opposite of that of the invention.

Hayashi further teaches that the outer cover layer has a Shore D hardness of at least 60 (abstract; Fig. 1; column 2, lines 32-34). However, Hayashi does not disclose the limitations as recited in claim 1 of the present invention, that the outer cover layer has a material hardness of less than about 50 Shore D and a hardness of greater than about 50 Shore D. The material hardness clause limits the choices of materials and compositions that constitute the outer cover layer, and the hardness clause limits the physical property of the outer cover layer. While being independent from each other, both of these two limitations are directly and intimately relevant to the final golf ball, and their integration forms a key and unique claim element that clearly distinguishes the present invention from Hayashi.

According to the discussions above, Hayashi fails to disclose all of the claim limitations as set forth in claim 1 of the present invention. Therefore, independent claim 1 is believed to be in condition for allowance. Claims 7 and 17 have been cancelled. The remaining claims 3-6, 10-12, 21, and 23 depend from claim 1, and add additional features. These claims are believed to be patentable for the totality of the claimed inventions therein and by virtue of their dependence from the independent claim. As such, Applicants respectfully request that the rejection under 35 U.S.C. § 102(e) be reconsidered and withdrawn.

II. Rejection Over U.S. Patent No. 5,779,562

Claims 1-7, 10-12, and 25-27 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,779,562 to Melvin *et al.* ("Melvin"). Melvin is generally directed to a multi-layer nonwound golf ball having a center core layer, an outer core layer, an inner cover layer, and an outer cover layer, the center core layer having a specific gravity different from that of the outer core layer by more than 0.1.

Like Hayashi, Melvin does not disclose all of the claim elements as recited in claim 1 of the present invention. Specifically, claim 1 of the present invention recites, among other elements, that the center core has a deflection of greater than about 4.5 mm under a load of 100 Kg, the center core comprises a polybutadiene having a polydispersity of about 2 or less, and the inner cover layer is harder than the outer core layer and the center. None of these limitations are found in Melvin.

For at least the above reasons, independent claim 1 is believed to be in condition for allowance. Claims 2, 7, and 27 have been cancelled. Claims 3-6, 10-12, 25, and 26, by virtue of their dependence from the independent claim, are also believed to be patentable for the totality of the claimed inventions therein. As such, Applicants respectfully request that the rejection under 35 U.S.C. § 102(e) be reconsidered and withdrawn.

III. Rejection Over Hayashi In View Of Melvin

Claims 8 and 9 were rejected under 35 U.S.C. § 103(a) as being obvious over Hayashi in view of Melvin. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to modify the reference or combine the teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art, not in Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 493, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

Additionally, a *prima facie* case of obviousness can be rebutted if Applicant can show that the cited reference, in any material respect, teaches away from the claimed invention. *In re Geisler*, 116 F.3d 1465, 43 U.S.P.Q.2d 1362, 1365 (Fed. Cir. 1997). The reference may further be said to teach away when a person of ordinary skill in the art, upon reading the reference, would be led in a direction divergent from the path that was taken by Applicant. *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1360, 52 U.S.P.Q.2d 1294, 1298 (Fed. Cir. 1999).

As discussed above, Hayashi is directed to a multi-piece solid ball having an outer core layer with a Shore D hardness of at least 60 and harder than all the other ball layers, including the inner cover layer and the outer cover layer (column 3, lines 38-45). Hayashi teaches that this particular hardness relationship between the ball layers is required to "retain the resilience of the

soft [center core],” and to “achieve the improved flight performance.” This is exactly opposite to the present invention which, as recited in independent claim 1, requires the inner cover layer to be harder than the inner core layer, as well as harder than the center. As such, Hayashi clearly *teaches away* from the claimed invention. One skilled in the art, reading on Hayashi, is only led to a direction opposite to the one taken by the Applicants.

Hayashi is further silent on other claim limitations of the present invention. Specifically, Hayashi fails to disclose or suggest a center core comprising a polybutadiene having a polydispersity of about 2 or less, an inner cover layer harder than the center core, or an outer cover layer having a hardness of greater than about 50 Shore D and a material hardness of less than about 50 Shore D. Therefore, Hayashi does not teach or suggest the claimed invention as a whole.

Melvin fails to cure the deficiencies of Hayashi. There is no motivation to modify the references. Hayashi only teaches an inner cover layer having a Shore D hardness of up to 58, an outer cover layer having a Shore D hardness of at least 60, the outer cover layer being harder than the inner cover layer, preferably by at least 5 on the Shore D scale, for a soft pleasant feel, optimal spin rate off the driver and increased flight distance (Fig. 1; column 2, lines 30-36 and 53-59; column 4, lines 21-31). This is in direct contradiction with Melvin, which requires the inner cover layer to have a Shore D hardness of 60 or more, the outer cover layer to have a Shore D hardness of no more than 55, and the outer cover layer to be softer than the inner cover layer for higher spin rate, better feel and playability (Fig. 1; abstract; column 4, lines 33-36; column 12, lines 33-36; column 14, lines 55-58; column 15, lines 12-13). Neither Hayashi nor Melvin provides any suggestion to modify the inner and outer cover layers.

One of ordinary skill in the art, reading Hayashi, is actually motivated to shy away from, rather than to look to, Melvin for modification of the inner and outer cover layers therein. The speculated combination of Hayashi and Melvin, as the Examiner states on page 5 of the Office Action, would force the skilled artisan to completely ignore the teaching of Hayashi regarding the cover layers, and employ the exact cover layers Hayashi *teaches away* from. Use of Melvin’s cover layers, according to Hayashi, would result in inferior golf balls having low spin and short distance, the exact problems addressed by Hayashi. Clearly, such a combination can only, and improperly, motivated by the Applicants’ disclosure.

Additionally, Melvin is also mute on using polybutadiene with a polydispersity of about 2 or less in the center, and on the inner cover layer being harder than the outer core layer and the center. These claim elements are now recited in independent claim 1 of the present invention.

For at least the above reasons, claim 1 of the present invention is believed not to be obvious over Hayashi and Melvin, alone or in combination thereof. By virtue of their dependency from the independent claim 1, claims 8 and 9 are also believed not to be obvious. The rejection under 35 U.S.C. § 103(a) is therefore believed to have been overcome. Applicants respectfully request reconsideration and withdrawal thereof.

IV. Rejection Over Hayashi And Melvin In View Of U.S. Patent No. 5,776,012

Claims 13-20 and 24 were rejected under 35 U.S.C. § 103(a) as being obvious over Hayashi and Melvin in view of U.S. Patent No. 5,776,012 to Moriyama ("Moriyama"). Moriyama is directed to a two-piece solid golf ball having a soft core and a hard cover (Shore D hardness of 60 to 70).

Moriyama does not cure the deficiencies of Hayashi and Melvin. There is no motivation to combine Moriyama with Hayashi and/or Melvin because, most significantly, Moriyama only teaches a two-piece ball with a core and a cover, while Hayashi and Melvin are directed to multi-piece balls with at least four layers (center, outer core, inner cover, and outer cover). Hayashi teaches away from two-piece balls by pointing out their drawbacks (hard feel, lack of control, etc. See column 1, lines 17-40). Melvin neglects two-piece balls entirely. Clearly neither Hayashi nor Melvin provides any suggestion to look to the two-piece ball of Moriyama for modification.

Moriyama does not mention center core, outer core layer, inner cover, or outer cover layer, let alone a center comprising polybutadiene with a polydispersity of about 2 or less, or an inner cover layer being harder than the outer core layer and the center, as recited in claim 1 of the present invention. Therefore, not even the combination of Hayashi, Melvin, and Moriyama disclose all the claim limitations of the present invention.

In an effort to expedite prosecution and further distinguish the present invention from the above combination, claim 13 has been amended to recite that at least one of the center or the outer core layer comprises between 2.4 parts and about 5 parts of the halogenated organosulfur

compound. Moriyama, as acknowledged by the Examiner on page 5 of the Office Action, only teaches 0.3 to 2.3 parts organosulfur in a polybutadiene core. Clearly claim 13 is not obvious over Moriyama with respect to the amount of the halogenated organosulfur compound used in the core.

For at least the above reasons, claims 13-16, and 18-20 of the present invention are believed not to be obvious over Hayashi, Melvin, and Moriyama, alone or in combination thereof. Claims 17 and 24 have been cancelled. By virtue of their dependency from the independent claim 1 (discussed above) the above dependent claims are believed not to be obvious. The rejection under 35 U.S.C. § 103(a) is therefore believed to have been overcome. Applicants respectfully request reconsideration and withdrawal thereof.

Conclusion

Based on the remarks set forth above, Applicants believe that all of the rejections have been overcome and the claims of the subject application are in condition for allowance. Should the Examiner have any further concerns or believe that a discussion with the Applicants' attorney would further the prosecution of this application, the Examiner is encouraged to call the attorney at the number below.

A fee of \$110.00 for one-month extension of time to January 4, 2004 is believed to be due with this submission. Please charge this and any other required fees to Acushnet Company Deposit Account No. 502309.

Respectfully submitted,

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